



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ecliptic, and as great circles intersect in opposite points, E will be 180° less than A , or $106^\circ 14' 45''$, and $180^\circ + PI = 223^\circ 10' 36''$, the longitude of the point passing the meridian.

The senseless divinations of Astrology, are almost entirely based upon finding the three points of the ecliptic required in this problem, for the moment of birth, at a given place.

Also solved by EDMUND FISH, Hillsboro, Ill.

48. Proposed by F. P. MATZ, D. Sc., Ph. D., Professor of Mathematics and Astronomy in Irving College, Mechanicsburg, Penn.

In case of *mischance*, with what force would the cow, weighing $w=700$ pounds, jumping over the moon, have struck Her Lunar Majesty in the face?

Solution by G. B. M. ZERR, A. M., Ph. D., President and Professor of Mathematics, Russell College, Lebanon, Va.

Let m =mass of cow on moon, $g'=\frac{1}{6}g$ =gravity on moon, $r=2163$ miles=radius of moon, $a=238840$ miles=distance from earth to moon, A =momentum $=mv$, E =kinetic energy $=\frac{1}{2}mv^2$.

$$\text{Then } v^2 = 2g'r \left(\frac{a-r}{a} \right), \quad m = \frac{700}{6g'}.$$

$$\therefore A = \frac{700}{6} \sqrt{\frac{2r}{ag'} (a-r)}, = \frac{700}{3} \sqrt{\frac{3r}{ag} (a-r)},$$

$$= \frac{700}{3} \sqrt{\frac{6489 \times 5280 \times 236677}{238840 \times 32.2}} = 239595.79 \text{ foot-pounds.}$$

$$E = (350r/3a)(a-r) = 1320341350.762 \text{ foot-pounds.}$$

The value of A is the force required.

PROBLEMS FOR SOLUTION.

ARITHMETIC.

83. Proposed by the late REV. G. W. BATES, A. M., Pastor of M. E. Church, Dresden City, Ohio.

A has three notes; the first and second, \$1000 each, and the third \$457; all dated April 1, 1884. The first is due April 1, 1888, second, April 1, 1889, and the third, April 1, 1890, and each bearing interest at 6%. What must B pay for the three notes September 21, 1886 that the investment will bring him 8% compound interest?

[NOTE—The above problem was the result of an actual business transaction.]

84. Proposed by SYLVESTER ROBBINS, North Branch Depot, N. J.

Show how to find sides, integral, fractional, and irrational for twenty-four triangles, each one containing 330 square yards.